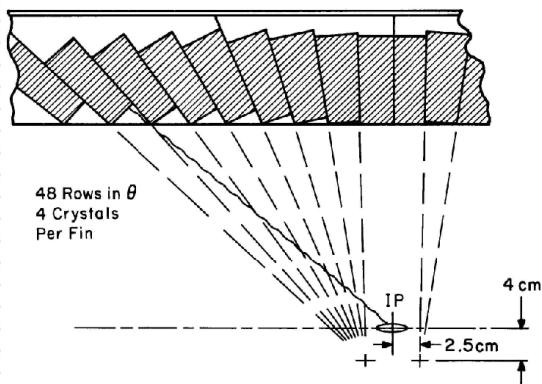
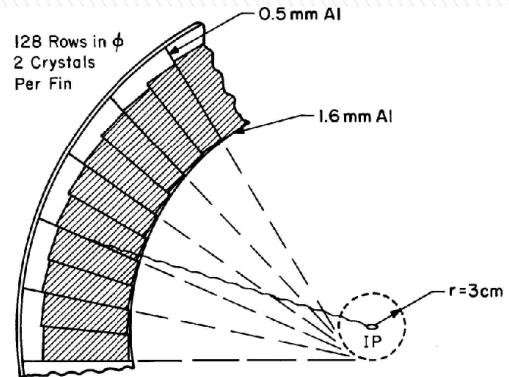


# Slight tilt for projective calorimeters

Jin Huang (BNL)

# Slight tilt is common trick among projective calorimeter design to avoid channeling



Collider: CLEO II (CsI)

Fix target: PANDA (PWO)

<http://www.lns.cornell.edu/~bkh/qwgcsi1.pdf>

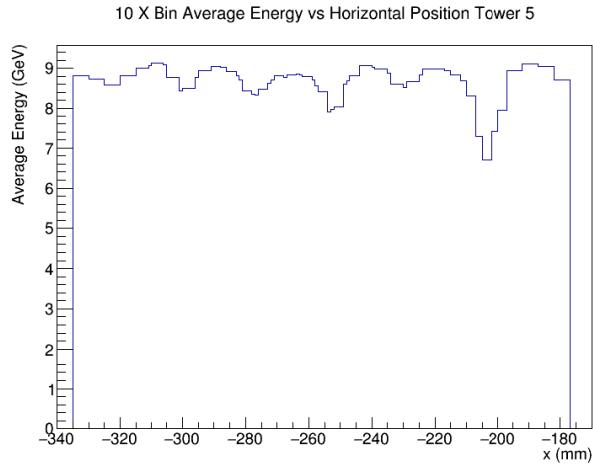
arXiv:0810.1216 [physics.ins-det]

Jin Huang <jihuang@bnl.gov>

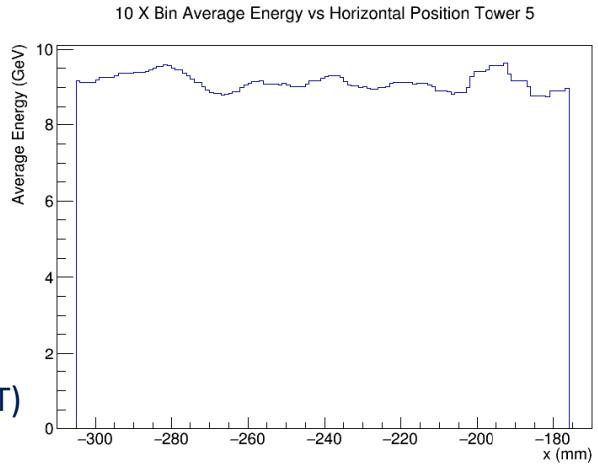
Internal Discussion

# How much should sPHENIX tilt

- ▶ 200mrad is diagonal line for one tower, i.e. geometric scale beyond which tilt would enlarge a cluster.
- ▶ 200 mrad tilt was shown to significant improve uniformity:



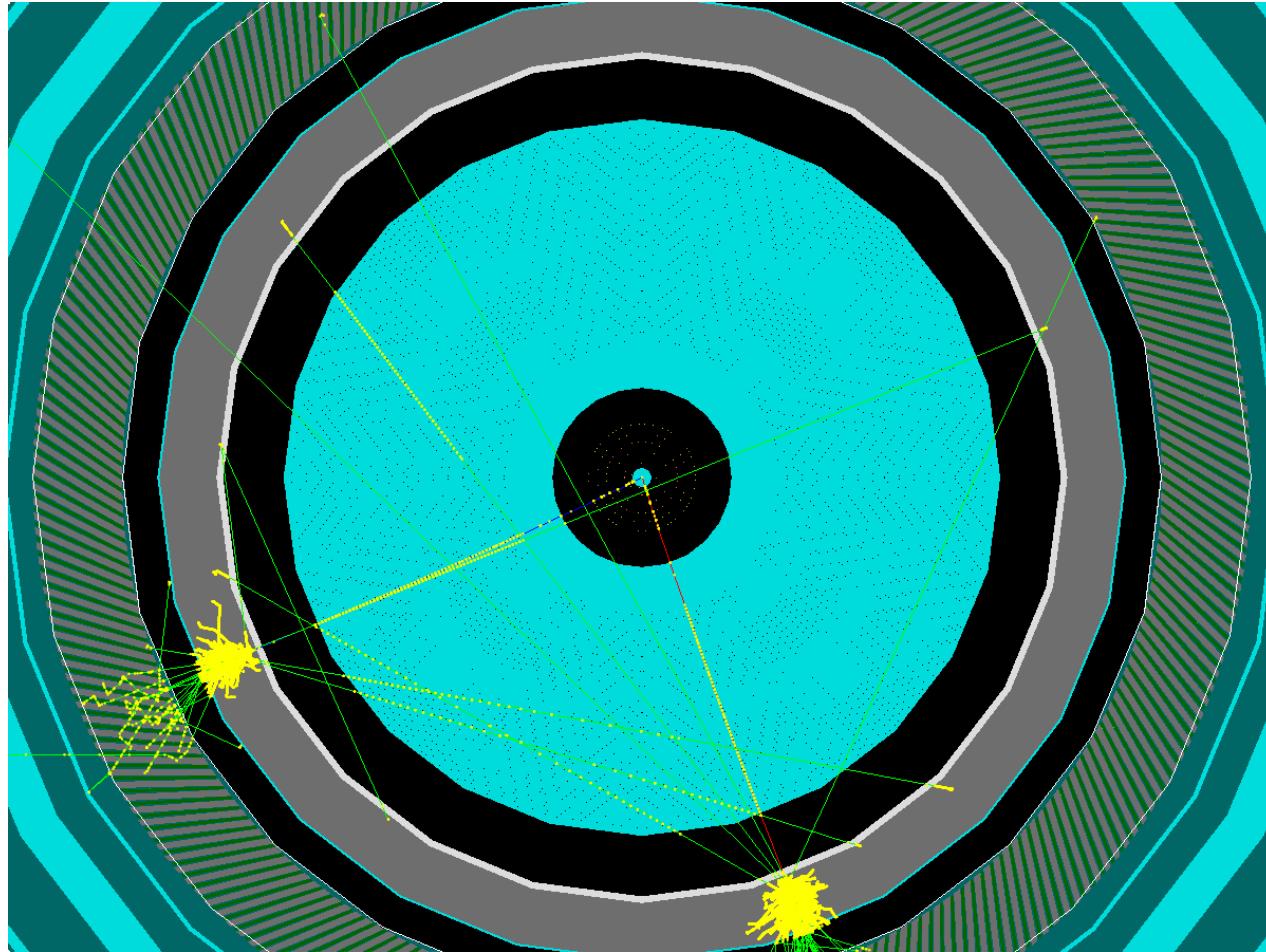
Tilt 200mrad  
From Zhaozhong Shi (MIT)



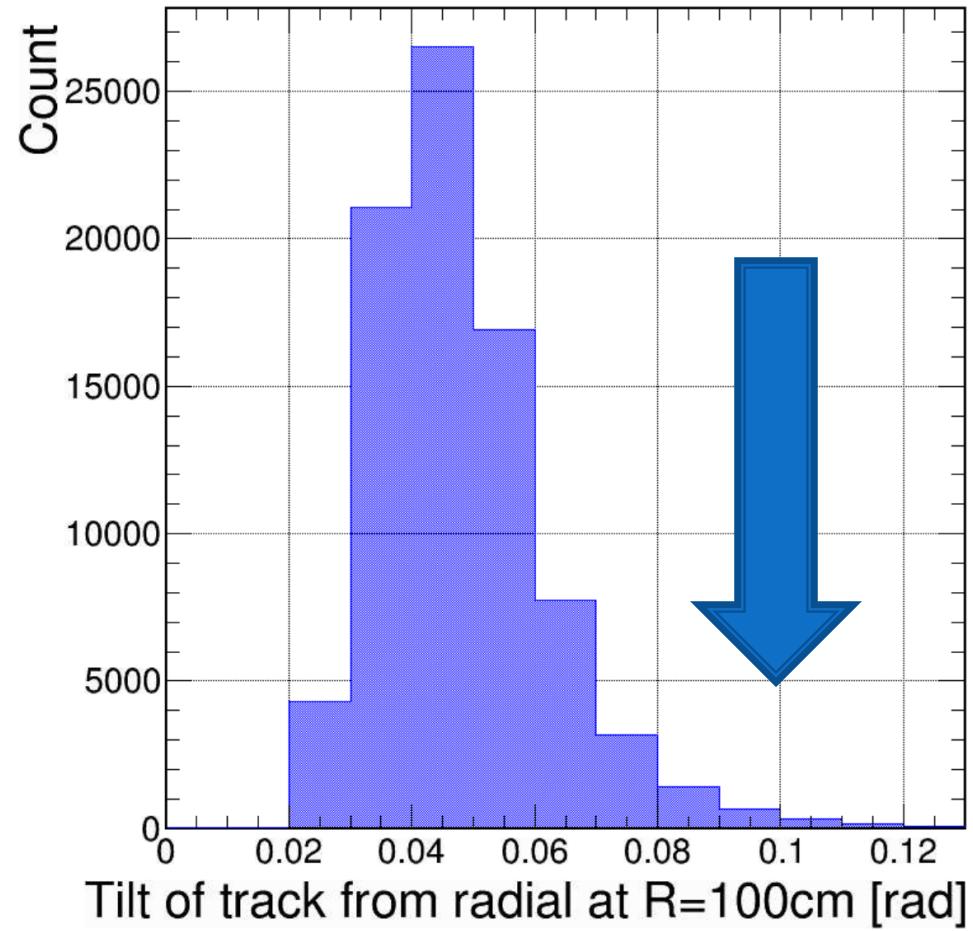
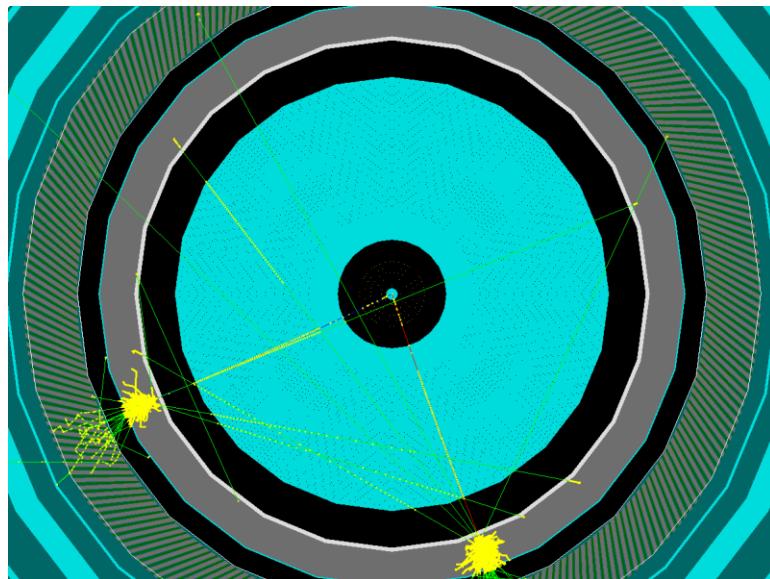
- ▶ Photon is 0-degree radial tilt, how about electron/positrons as required by the Upsilon program?

# Upsilon → electron

## Tilt is small $\sim \pm 50\text{mrad}$ away from radial



# Qualitatively, for electrons of Upsilon decay in sPHENIX is <100 mrad

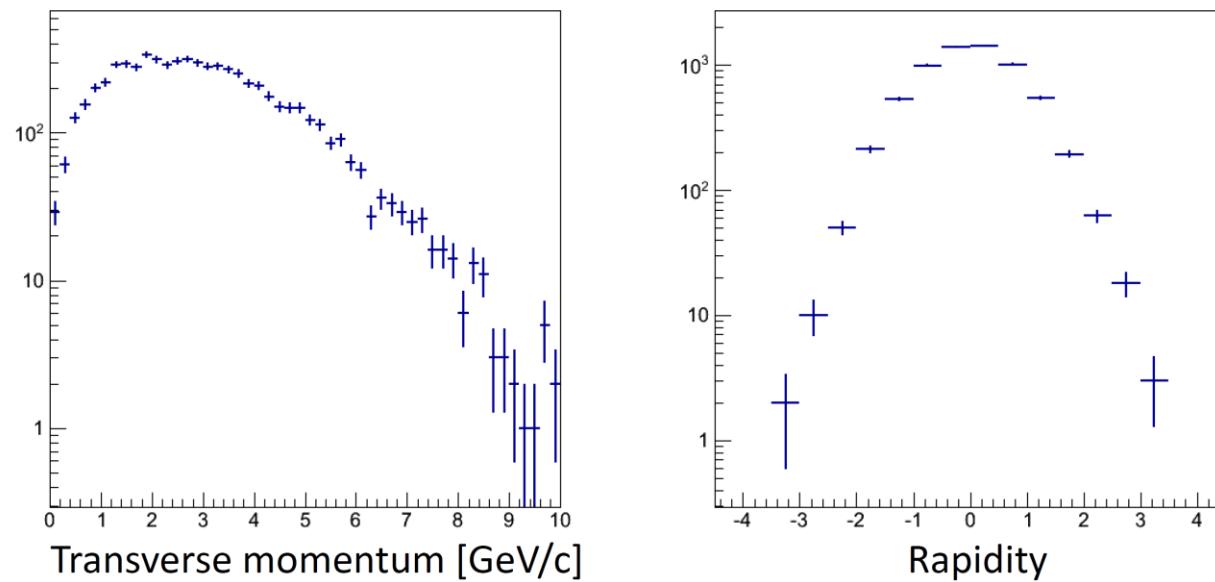


# Extra information



# Upsilon $p_T$ and rapidity distributions

Upsilon  $p_T$  and rapidity distributions from *PHG4ParticleGeneratorVectorMeson* event generator (PYTHIA? Ramona Vogt?)



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